

CIA/PIR-1004/63

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ALUMINA AND ALUMINUM PLANT NEAR JUNG-YANG, CHINA



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ALUMINA AND ALUMINUM PLANT NEAR JUNG-YANG, CHINA

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An alumina and aluminum plant near Jung-yang, China, was observed on photography of [REDACTED]. The plant is located six nautical miles west-northwest of Jung-yang at 34-49N 113-15E. It is served by a spur of the rail line between Cheng-hsien and Lo-yang (Figure 1). The plant occupies a total ground area of approximately 300 acres (Figures 2 and 3).

At the time of photography the plant was not in operation and some sections of the plant were not completed. Smoke, fumes, or dust, normally associated with the alumina-aluminum industry, were not visible. The absence of construction equipment and activity within the plant area indicates that construction has apparently stopped.

Photographic interpretation reveals that the plant when finished will be completely integrated, i.e., the installation will comprise facilities for the production of alumina and the production and fabrication of aluminum (Figure 2 and Table 1). However, essential components of certain facilities are under construction or missing. In the alumina section (Section B) the caustic recovery building (Item 16) is not completed and about half the number of precipitators (Items 17 and 18) are not in place. Vertical supports (adjacent to Items 6 and 22) have been constructed for two additional rotary kilns in this section. The small quantity of red mud in the basins (Item 1) indicates that the alumina section has facilities adequate at least for a trial run.

In the aluminum reduction section (Section C) two potrooms (Item 26), each measuring 1,180 by 80 feet, have been constructed; the

size and position of the rectifier building (Item 28) indicates that construction of two more potrooms is planned. The transformer yard, usually located near the rectifier building, is not installed. The absence of an associated electric power plant suggests that electric power will be provided by the local power net.

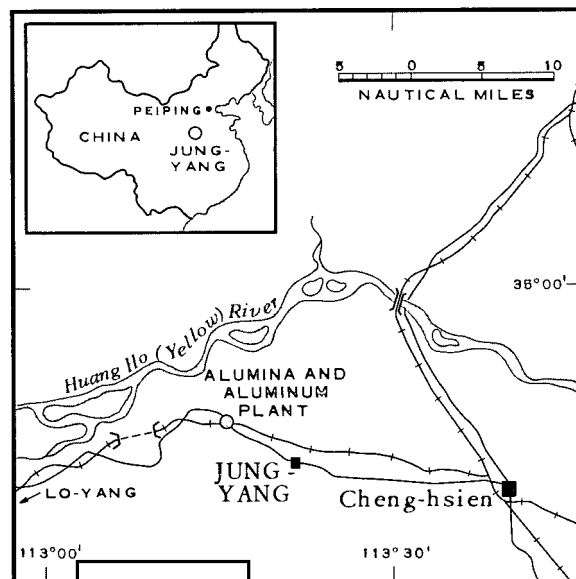


FIGURE 1. LOCATION OF ALUMINA AND ALUMINUM PLANT NEAR JUNG-YANG, CHINA.

One production building is under construction in the rolling mill and fabrication section (Section E). Bauxite, other raw materials, and fuel are stored in the open in the plant area.

The presence of a lime-soda-sinter section (Section I) is an indication that the bauxite to be processed at this plant will have a high silica content. The presence of red mud basins, numerous precipitation tanks, and rotary kilns indicate that the Bayer process will be used at the plant for the production of alumina.

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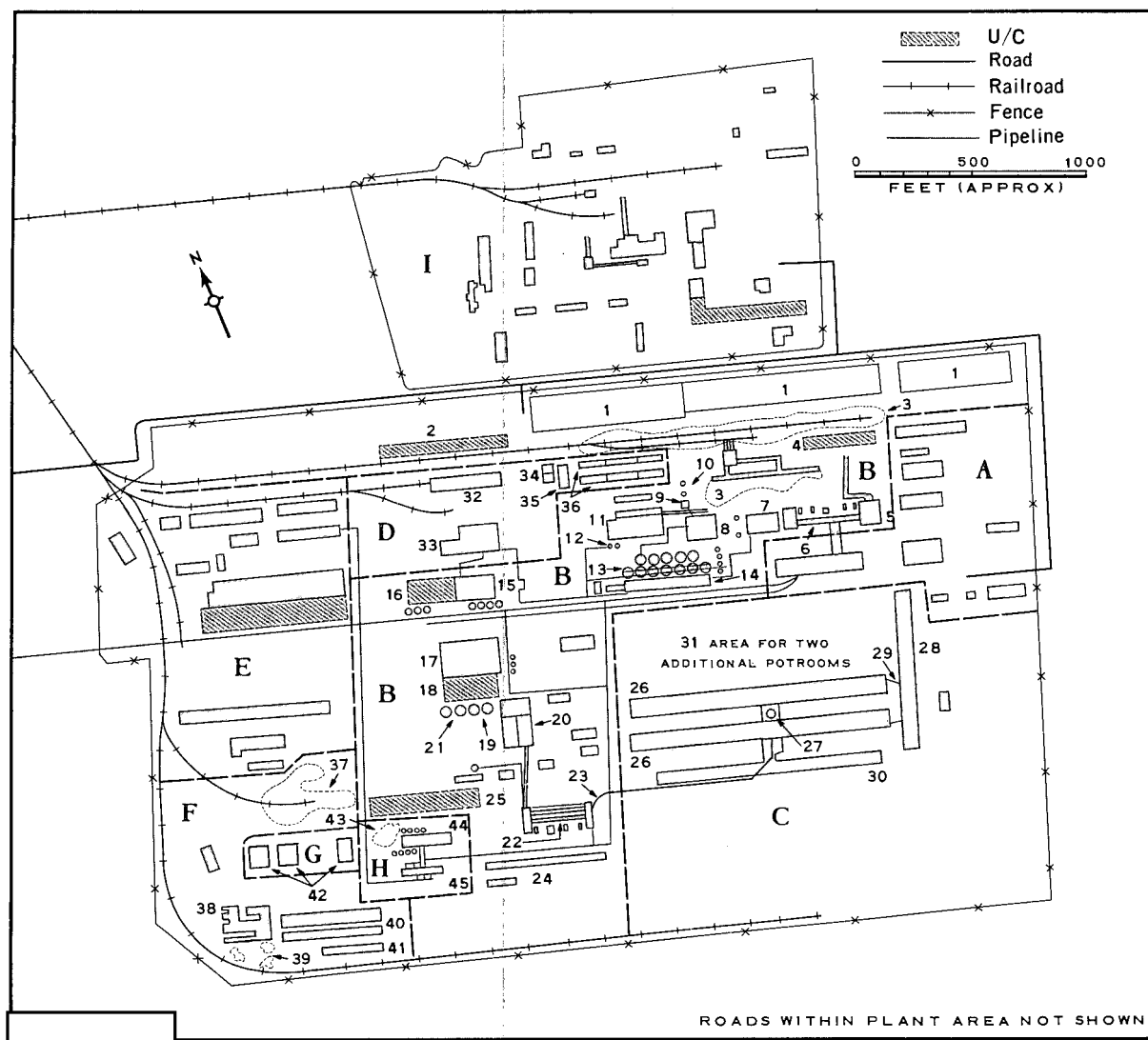


FIGURE 2. LAYOUT OF ALUMINA AND ALUMINUM PLANT.

Table 1. Key to Annotations, Figure 2

Item	Description	Dimensions (ft)	Area (roof cover) of Production Buildings (sq ft)
A	Shops and Maintenance Section	--	--
B	Alumina Section		
1	Red mud basins (3)	250 x 135 900 x 135 715 x 150	--
2	Building u/c	--	--
3	Open storage	--	--
4	Building u/c	--	--
5	Crushing building	105 x 55	5,775
6	Drying kiln	300 (length) 15 (diameter)	--
7	Dust catchers	--	--
8	Covered slurry tanks (24)	20 (diameter)	--
9	Causticizing building	20 x 20	400
10	Soda ash silos (2)	20 (diameter)	--

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Table 1 (Continued)

Item	Description	Dimensions (ft)	Area (roof cover) of Production Buildings (sq ft)
11	Digestion building	275 x 120	33,000
12	Concentrated caustic soda tanks	30 (diameter)	--
13	Thickeners (7)	40 (diameter)	--
	Thickeners (5)	50 (diameter)	--
14	Filter building	415 x 50	20,750
15	Caustic recovery building	180 x 110	19,800
16	Caustic recovery building u/c	210 x 110	23,100
17	Precipitators	25 (diameter)	--
18	Precipitator section u/c	--	--
19	Thickeners (2)	50 (diameter)	--
20	Filter building	140 x 85; 2 sections each 130 x 60	27,500
21	Dilute caustic soda tanks (2)	50 (diameter)	--
22	Calcining kilns (2)	240 (length) □ (diameter)	--
23	Pneumatic tube or conveyer	--	--
24	Miscellaneous buildings (2)	--	--
25	Building u/c	--	--
			130,325
C Aluminum Reduction Section			
26	Potrooms (2)	1,180 x 80	188,800
27	Alumina silo	25 (diameter)	--
28	Rectifier building	750 x 75	56,250
29	Bus bars	--	--
30	Carbon rodding and/or casting building	1,000 x 45	45,000
31	Area for two additional potrooms	--	--
			290,050
D Steam Plant			
32	Fuel warehouse	325 x 65	21,125
33	Boilerhouse	Irregular shape	27,500
34	Water reservoirs (2)	--	--
35	Pumphouse	140 x 30	4,200
36	Cooling towers (6)	--	--
			52,825
E Rolling Mill and Fabrication Section			
	Production buildings (9)	--	214,700
F Carbon Electrode Section			
37	Coke storage	--	--
38	Carbon paste and electrode building	Irregular shape	27,450
39	Probable pitch storage	--	--
40	Electrode furnace buildings (2)	475 x 45	42,750
41	Unidentified building	300 x 55	16,500
			86,700
G Water Treatment and Storage Section			
42	Basins for water treatment and storage (3)	--	--
H Gas Plant			
43	Coal or coke pile	--	--
44	Gas production building	125 x 70 120 x 50 200 x 30	14,750
45	Compressor building	--	6,000
			20,750
I Lime-Soda-Sinter Section			
	Numerous processing buildings	--	66,125
	Total		861,475

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FIGURE 3. ALUMINA AND ALUMINUM PLANT

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REFERENCES

PHOTOGRAPHY



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MAPS OR CHARTS

Air, 15th RTS. US Air Target Chart, Series 200, Sheet 0385-9A, 1st ed, Nov 59, scale 1:200,000 (SECRET)

REQUIREMENT

CIA. RR/260/62

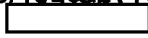
PROJECT

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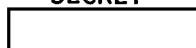
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